AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"*O fortunatos nimium sua si bona norint*
"*Agricolas.*" . . . VIRG.

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AGRICULTURE.

TRANSACTIONS OF THE

Agricultural Society

OF NEW CASTLE COUNTY, IN DELAWARE.

S. H. BLACK'S MEMOIR.

[*Continued from Vol. II, page 27.*]

The reasoning which we have attempted to use in favour of a deep soil for Indian corn, will apply with the same force to the culture of smaller grains, and also to grass, with this difference only, that as many of the smaller grians; as wheat, oats, rye, barley, &c. would under no circumstances, however favourable to their expansion, extend their roots so deep or so widely as corn; the chances for a perfectly full crop of these grains would upon a twelve inch soil be proportionably increased. I do not know indeed if the quality of the soil was exactly adapted to the growth of such grain, and had a depth of twelve inches, with judicious tillage, but it might be confidently expected that the produce would be equal to the *utmost possible quantity* which could stand erect upon its stalks, on any given piece of land; and at this point alone it is that the God of nature has designed, absolutely to bound the exertions of man.

With regard to grasses, and more especially the red clover, which on a farm, whether considered as an ornament, or for its usefulness, is superior to all other grasses now known; its roots will penetrate nearly as deep as those of corn, and consequently to insure a full crop will require as deep a soil. The clover has a perpendicular or tap root, from which passes off innumerable small and tender fibres; and although from the vigour and strength of this tap root, it will even in a poor, and consequently hard soil, penetrate to a considerable depth; yet as the smaller fibres, from their more delicate texture, cannot extend themselves by force, in such a soil, and as it is through these alone that the stalk receives its nourishment, under such circumstances but a scanty produce, speaking comparatively, is to be expected. It is owing to this stroug, perpendicular root of the clover, however, that a poor superficial soil will produce more in proportion of this, than of any other species of grass, or indeed of almost any of the smaller grains.

Earth generally, might perhaps with propriety be termed soil; in these remarks however, wherever that word is used, it is designed only to be understood as applied to that particular portion, or upper stratum of earth, which has, either naturally, by the decomposition of vegetable matter, or artificially, by the application of some species of manure, been more highly charged with that active substance, or principle, whatever it may be, which promotes vegetable growth.

This soil is in its *quality* susceptible of an endless variety, in some places as perfect, and in others as imperfect as nature or man can make it; with all the grades between these two extreme points.

It has been designed to show that *depth* or *quantity*, as well as *quality*, is essential to a perfect soil. In this respect also great varieties exist. Whether our earth, at its first formation, had a soil generally diffused over its surface, or not, is a question more curious perhaps than useful. We do know that as soil produces every where vegetation; so in return does vegetation make soil. In many places where the ocean, a river, or some tributary stream, has been known long since to have receded from its original boundaries, and left a mere bed of sand; vegetation has in time commenced, although slight at first, and slow in its progress, yet sufficient eventually to make a deep and luxuriant soil. *Nor will this soil, or the active prolific principle contained in it, ever sink into, or incorporate itself with the common natural earth, or sand; which constitutes but its basis.* It has, and it ever will, if not disturbed by the hand of man, or carried off by accident, remain as it accumulates upon the surface: giving out only so much as may be necessary for the support of any vegetable, the germ of which nature may have cast upon it; and from the decay of which it receives back again in due time, new additions to its quantity and to its quality.

That principle which we call manure, and which constitutes the richness of a soil, and renders it productive, is in fact of a volatile nature, and may, under certain circumstances *ascend*, but never willingly *descend*. Hence it is, if a piece of land be broken up two or three times yearly, for a series of years, and no vegetable suffered to grow upon it, it will become sterile; but if kept carefully enclosed, and the spontaneous vegetation growing, allowed to decay upon it, it will improve.

If in truth, nature had made it a law that the essential properties of manure, should either by their mere gravity, or by the agency of water carrying it through the earth, as a seive, descend; instead of now, in our day finding the soil upon the surface, it would long since have reached the centre of the earth. Those who contend that manure does descend naturally, or by nature's laws, must at least, I imagine, admit that this process is extremely slow; seeing that in many places it has not travelled above two or three inches, in twice as many thousand years.*

In arguing against this opinion, the common process of obtaining ley from wood ashes, has been mentioned. Here it is well known that water poured upon ashes contained in a vessel close, except at bottom, will filter through and carry with it the alkali in a liquid form. But this, however plausible, is erroneous reasoning. The ashes here have been recently handled, and artificial means are moreover practised in order to continue it in a loose state. If ashes, light as it is, be kept in a vessel undisturbed for several years, and more especially if there be a large body of it together, and it be occasionally wetted upon its surface, I'll risque my whole theory on it, that water then poured upon it, will not carry through any of its properties.

In short, reason, common sense, and experiment combine to prove that manure never sinks, except some artificial process be used to make it do so. This process with us, is *ploughing*. Just so deep as you plough, so deep will your manure sink, and consequently so deep will be your soil. If then, we are correct in believing that it requires a soil twelve inches in depth to produce a full crop, we must, if we design to have such crops, plough twelve inches deep. We mean only by this however, that the plough should be run thus deep at the first breaking up of the ground, preparatory to the reception of the seed of every crop. Any sort of grain that requires after working, it is little matter then how shallow the ploughing: sufficient merely to loosen the ground, for the absorption of heat, and moisture; and with a view of preventing the growth of grass, weeds, or any other extraneous vegetable matter.

A single ploughing, however deep, if not annually, or as often as a new crop is put upon the ground thereafter, broke up at least to the same depth, will be rather injurious than beneficial; because, if there be but four inches of soil on the surface, and the ground be broke up eight inches deep, there will consequently be an admixture of the four inches which were good, with four inches which were poor: and by the time at which another crop comes to be put in, the ground has become hard, and compact; and will not admit the tender roots of the vegetable to penetrate it, if the ploughing for that crop has not been equally deep. If this subsequent crop should, for instance, be put in with a ploughing of but four inches, there will be one half of the original soil lost to that crop, or nearly so; some of the more vigorous roots may reach it, but not to any considerable beneficial extent. On the contrary however, if there be upon land, but four inches, or less of soil; and that land be constantly, and carefully broke up, previously to receiving any, and every crop, eight, or even twelve inches deep, nothing whatever can be lost, but much may be gained; for although the soil, thus treated, will at first be weakened in *quality*, yet it will, in the same proportion, be increased in *quantity*. And there need be no fears entertained, but the roots of any ordinary grain or grass will penetrate easily and speedily in a mellow soil to this, or a greater depth. And as the number, as well as length of these roots increase with the depth of soil, there will be an additional chance allowed them to reach, and to absorb a greater proportion of nourishment; they will moreover, by shooting deep, get beyond the reach of drought, which alone, is an important consideration.

We infer therefore, that the poorest land, even where it is not intended by lime, or any other species of manure to improve, should always be ploughed deep.

It has been said, that to plough land deep, and perseveringly, would alone make it rich. I believe it would. An increase of vegetation would result from such a course; and this always improves land, if the conduct of the farmer in other respects, relative to this point be judicious.

I trust these remarks on the importance of deep ploughing, and consequently a deep soil, will not be thought tedious. It is the most essential point—it is perhaps the *ne plus ultra* in farming.—However rich the soil may be, if it should want depth, the hopes of the husbandman will be disappointed, and this disappointment has been productive of infinite mischief. The agriculturist, forgetting depth, has improved the surface of his ground to the utmost. And his crops have notwithstanding, been liable to accidents; they have, though promising much in the beginning, failed in the end. And thus encouraged a belief that all, with the farmer was uncertain. The tiller of the ground, in narrowing down his hopes, has contracted his exertions, until both are in danger of a total wreck. Men seem indeed, not only to have lost sight of the *depth*, but also of the *quality* of their soil, and to have turned their whole attention to the acquirement of an immensely extensive surface. Supposing that if they can obtain the possession of two or three thousand acres of land, no matter of what description, or quality; they will have reached the *ultimatum* of human greatness. Although it is evident, that these large unproductive possessions serve for little else than to starve the cultivator, and beggar the owner. I would deem it an act of wisdom in any man, who had forty acres of arable land, with a soil upon it three inches

* The note on page 27 will be applicable here, to which may be added the author's own opinion that ground ploughed and exposed, will die, and it is no matter with *the vegetables* whether the pabulum is gone to *the clouds* or the antipodes; so it be gone.

Edit. Am. Far.

only in depth, and who could not be persuaded to improve the whole of it, if he were to remove the surface from thirty of his acres, and lay it down upon the remaining ten; he would then have a lot, which would yield him as much produce as his forty acres did before; and this with one fourth the expense and labour. He would act in this as wisely, as he who, having a Spanish milled dollar, hammered out, until it presented a surface as large as a pewter dish, by recoining and stamping upon it the currency of his country. As in the latter case, he would exchange his precious metal, from the form of an unwieldy and useless toy, to a convenient and useful article of exchange; so in the former, would he obtain for an unmanageable, unprofitable burden, a convenient and productive estate.

In the experiments which I mentioned with a view of showing, that poor land might be improved and made equal to first rate in quality, without actual expense to the farmer; *lime* was spoken of as the first and principal agent in effecting this important change.

Various modes have been partially practised in our country for the purpose of imparting new vigour to worn out soils. Some have relied upon *compost* or barn yard manure. And if this article could be procured at *almost any rate* in quantities sufficient, a more speedy, or more effectual one need not be sought after. This however, is obviously impossible. As an auxiliary to the lime, it is invaluable; but cannot to any extent be relied upon as the *sole* agent.

I do imagine, that if it were intended by means of compost, or yard manure, to make one acre of poor land suddenly rich twelve inches deep, it could not require less than a one third part of this surface to be of pure manure. And to do this, it would demand at least five hundred large cart loads of this material.† Independently too, of the *quantity*, the *quality* is very important. Manure, in a raw or crude state, should never be put upon land, if the contrary can be had.—It demands a tedious and skilful process to render it, in any degree perfect: of which more shall be said hereafter. Those, therefore, who depend upon such manure for the improvement of their land, will either wear out a long life time, in completing a very few acres; or they will be tempted, which is by far the most common, and the most foolish, to scatter yearly, a few loads of half made manure over some of the poorest spots in their extensive fields; producing upon such spots for a year or two a growth of vegetable matter, as much too rapid, as it was before too tardy.

Marl has been highly spoken of; this substance however, I take it, is only to be depended upon where it consists of decomposed vegetable, or animal matter, and marine shells. It then partakes of the properties both of compost, and of lime. It requires large quantities of it to be effectual, and it is to be found only in few situations, generally on the sea-board, or in the neighbourhood of some large rivers, or bays; it is not of a nature sufficiently portable to be conveyed to any considerable distance in the interior of the country, and its utility must, from necessity, remain very limited.

Ashes, obtained by the burning of wood; this is a most powerful manure, its virtues consist perhaps principally in its alkali, and in this respect is similar to lime. It appears peculiarly adapted to the growth of *white clover*. Almost any land, on which ashes has been properly placed, will soon be found covered with a spontaneous growth of this beautiful vegetable. I imagine, that one bushel of live wood ashes, will be found equal in strength, as a manure, to two bushels of quick lime.‡ And even after the ley has been drawn off for domestic purposes, the residuum, if not run too close, will be equal to the same quantity of slaked lime. In the neighbourhoods of towns and cities, it might therefore be useful; but to the country generally, it can never become an object, or extensively useful to the farmer.

Ashes, or a residuum obtained by burning, or decomposing marsh mud by means of fire.§ The attention of a few enterprising farmers has been lately turned to this object. I am not by any actual experiment or even observation, acquainted with the power of ashes thus obtained. I am, however, inclined to believe that it will be found extremely feeble. There can be no combustible material in mud, except a vegetable matter; and the essential parts of this matter must have been principally dissipated, before it has undergone the action of fire. I much fear that this process will be found better calculated to amuse, than to benefit the farmer.

The division of farms into small tillages, and the culture of clover, with the plaster of Paris, have been the hobby-horse, on which some men have mounted, with a hope of riding rapidly to wealth, and this scheme, so far as it goes, is an excellent one; it is in fact indispensible, in a system of improvement, yet it will not succeed if practised *alone*. If any man could have patience sufficient to persevere in a plan of this sort during a long life time, his land would, in the end, be, no doubt, materially benefited; and, if to this he would join deep ploughing, and a strict and persevering attention to the manure which it would be possible for him to make; and his farm did not consist of more than six or eight, ten, or twelve acre fields, he might make a soil deservingly esteemed, a very good one.*

A man generally *does*, (and I hold it wise for him to do so) attend more to his *own* interest, than to that of his *successors*. There is, happily, in the laws of our country, no security for the continuance of property in *families*. There is no temptation, therefore, for any man to spend his whole lifetime in toiling to improve his *fee simple*, for the benefit of his *heirs by descent*. His first object should be, to improve it for *himself*; and more especially, when it follows, as a matter of course, that in doing so, he benefits his country. If his heirs conduct themselves properly, they may enjoy it; but if not, which is much the most likely to happen; his labour is still not lost—he enjoys it himself. These considerations argue against a *tedious*, and in favour of a *speedy* improvement of land. And whether they may, or may not be admitted as sound *theory*, they are, nevertheless, generally practised upon.

I have known many men commence the improvement of their soil, by a sub-division of their fields, and a sowing of grass seed. Yet I have seen few persevere long in this course, unless they could be prevailed upon to advance a few steps further: it has generally ended in working three times the former *number* of fields, in order to get in the same *quantity* of ground: and in pasturing down their clover, until the last sickly blossom of it disappeared. Whilst their division fences remained a while, as if mere monuments of what the farmer had once *intended to do*. Such consequences, in fact, seem to be the necessary result of such feeble attempts at improvement.—A farmer, who has long been in the habit of tilling large fields, however poor, yet, if he has from the great quantity of ground, been able, generally to obtain a thousand bushels of Indian corn, with as much oats, and perhaps two or three hundred bushels of wheat; if, after he has reasoned himself into the propriety of cultivating in grain, but one third part of this ground, he should continue for some years to receive but little more than one third part of his former crops, and should, additionally, as he most probably would, upon such ground be disappointed in his expectations of having grass fit for the scythe, he not only becomes displeased with his change, but absolute necessity urges him back again to his former habits.

It appears obvious to me, that no system of improvement is likely to be *generally* adopted to any extent which may prove useful; except it can be found to combine a *cheap*, with a *speedy* and *certain* operation.

Our land is upon the broad of its back; 'tis in a state of extreme direct debility—its nurses and physicians are parsimonious, and impatient withal. A cordial must be administered, cheap, quick and powerful in its operation. That cordial, gentleman, is *lime*. It has been attempted to be shown, that this substance possesses all these requisite properties. I have ventured the opinion, that this article, in fact, costs nothing to him who will use it upon his land judiciously; and have been at some pains to establish this sentiment: 'tis to me, as clearly demonstrable, as any problem in Euclid.

If a man borrow from his friend any given sum of money, and repays it in current coin within the time limited in his contract, together with its full interest, I would ask, if that friend has lost any thing by the loan? If you loan to each acre of your arable land one hundred and fifty bushels of lime, or sixty dollars, a sum sufficient to deliver upon it that quantity, and this land should, in return, within a period of eight years, by its surplus produce, repay you the whole sum, with its interest; and an ample compensation additionally for all extra labour and expense: can it be possible that this improvement will have cost you any thing?—So far from it, and so different indeed will your land thus treated, be found from an ordinary debtor, that, after it has fully repaid you the first principal, with its interest, it will not cease, but continue, gratefully to return to you annually a sum equal to the whole cost of its improvement, as long as you please to receive it.

It is also quick, and powerful in its operation: If fifty bushels of lime for each acre, be laid upon land

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† The modern practice in Europe is to apply crude manures; see Mr. Young on that subject; to him we subscribe: though in the fine articles of Horticulture, it is necessary to avoid that crude state; buy all you can well rotted; but put your own on from the stables.

[*Edit. Am. Far.*

‡ Poor land, in Maryland, requires 400 bushels of leached ashes to improve it sufficiently for wheat; quick ashes are so little better, that the effect of lime in the leached is nearly an equivalent; so that it is not the alkali unless the whole mass of ashes be a solid alkali only soluble in 7 years; the idea of their being better than lime is extremely wide of the fact; and if a less quantity of ashes than the above will do on some soils, it must be on the sea-board, where it may convert the salt into barilla, which is a prime manure.

Edit Am. Far.

§ Burning is both an old and a new practice; the good effects cannot be doubted, and in the renovation of soils is nearly indispensible, where profit is the object, or where money is scarce. By burning, the lime stone if any, is made lime; so that the insignificant quantity of 50 bushels, is made a poweful manure; the pyrites are calcined, and the earth is reduced from compound concretions to simples; and, moreover, is made as fine as an ant house, states admirably adapted to cultivation, independent of the consuming of all that is vile, and thus becomes, as it were, a charte blanche, ready to receive the new impression. A gentleman in this neighbourhood has now a most elegant piece of meadow by burning, and one fourth the manures he used on his other contiguous ground.

Edit. Am. Far.

* Although the improvement of land with clover and plaster of Par s alone, is comparative'y a slow process, and not calculated in an ordinary lifetime to make a truly first rate soil, yet where no better, or more speedy system can, or will be adopted, this should never be neglected. The most important, and many of them *immediate* benefits, result to the farmer from the culture of this grass. Hay is produced by it in an abundance, and consequently much yard manure. Much of it is, moreover, left on the ground, by which the soil is defended from the hot sun of summer, and the more destructive frost of winter.—And this refuse vegetable matter serves, in breaking up the ground, as a coat of manure.

A clover sod, if the soil be but tolerably good, and the grass has not been previously taken too close from the ground, offers a fair chance for a productive crop of wheat. When wheat is put in a clover sod, the ground should be broken up *deep, and but once*, before sowing. The less the sod is mixed with the soil in this case, the better. By being simply thrown under with one ploughing, it seems to keep the ground loose, and will, as it decays, gradually supply food to the wheat.

which was previously poor: and followed with a crop of corn, oats, wheat, and grass; or what is perhaps better, corn and potatoes, oats, wheat, and grass, either of which round of crops will require, if on the same ground, a period of four years; after the grass which has been the last crop, is taken off, and the ground pastured until November or December, a second coat of one hundred bushels of lime to each acre may be then applied; and the same routine of farming pursued, during the four following years: at the end of which, if the plough has been run four inches deep with the first liming; and eight inches deep with the second: and if additionally, a strict, and steady attention has been paid to the preparation, and application of yard and compost manure; the land thus managed will not, it cannot fail to produce four times the quantity of grain, and grass, that it formerly yielded, and this too with little, if any additional expense in cultivation. And in four years more, without the further aid of lime: but simply by ploughing twelve inches deep, and maintaining a steady attention to manuring; which will have completed a period of twelve years from the commencement of this course of farming; the owner of such land, may have his soil equal at all points to a first rate, in quality, and fully worth, either upon a sale, lease, or culture, five hundred dollars per acre.

In making these estimates it will be perceived that lime has been calculated at forty dollars the hundred bushels, delivered upon the ground. This substance can I believe, be procured to any extent, at this price; if the distance from the lime kilns should not exceed twelve, or fourteen miles by land; if by water, four times the distance may be computed at the same price.†

This may perhaps be the most proper place to mention the *oyster shells.*‖ Where these can be obtained in sufficient quantities at their present price, they will be found, I think, an object still more worthy the attention of the farmer. I feel pretty well assured from actual experiment, that the shell lime, in the same proportion as the stone lime in a fallen or slacked state, is superior to it.

It must be remembered, that the best stone lime, well burned, and faithfully measured, will, for every fifty bushels fresh from the kiln, measure seventy bushels in a fallen or slacked state.‡ And when we speak of putting lime upon land, the quick or unslacked, is always to be understood.

One hundred bushels of oyster shells, if good, when well burned, will make about seventy bushels of lime. According to my own experience, I have found this a fair calculation; but have been informed by some gentlemen whose veracity I deem unimpeachable, that they have obtained more lime by fifteen or twenty per cent., than they have had of the shells. This apparent difference may be accounted for; either from the *quality* of the shells used, in which there certainly exists great varieties, or in the time when the lime has been measured: about five days after shells have been burned, they will measure more than at any prior, or subsequent period. The strength however, contained in any given quantity of shells is always the same, though the bulk may differ.

(*To be continued.*)

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† It was urged some years ago, against the possibility of lime being extensively useful, that a great demand for the article would render it scarce, and enhance greatly its price. I ventured at that time the opinion, that the contrary would be the fact, that the price would fall, and the quantity increase in proportion to the demand. Experience thus far, has established the truth of this sentiment.

The lime which I purchased in 1814, cost me delivered, 10 miles from the kilns, 45 dollars per hundred bushels—I have during this year, 1819, been offered a contract, to any extent, at $35. There is perhaps at this time 20 bushels of lime demanded for one that was asked at the first named period; lime quarries are now daily opening that a few years ago were neither thought of, or known; lime kilns are building, in the upper part of this state, on almost every farm; they are in fact rapidly shewing themselves in the middle, and are confidently spoken of in the lower part of this county; and still lime is in its price on the decline. I confidently expect to see the time, if I should live but 20 years more, when this article may be obtained for 40 per cent. less than at present, and when 100 bushels will be used, for one now. The sources of lime stone in the United States are absolutely inexhaustible.

‖ Shell lime is neither so caustic nor weighty as stone lime, will not go so far in building, and in this state, Maryland, three bushels are supposed equal to one of stone, (in agriculture) both in a fine air-slacked state. It could scarcely be possible for the Marylanders, living on the waters, to be deceived in the strength of shell lime, and here we may add that 25 cents per bushel for stone lime, is a very full price for a farmer (taking up poor land) to adventure on; and perhaps too much for the present rate of our price current. *Edit. Am. Far.*

‡ Seventy bushels of slacked lime, for 50 bushel of quick lime delivered, has been the result, generally, of my experience. I have however been assured by gentlemen well acquainted with this subject, that 50 bushels of lime fresh from the kilns, *if honestly measured*, will never make less than 100 bushels in a fallen state.

I am well aware that the grossest fraud and impositions are constantly practised by those who sell lime; some of these I have myself detected, and have undoubted information of many others. The fact has become notorious, and calls loudly for redress. If the moral evil of such conduct cannot restrain its practice, the interest of lime burners ought to do it. A higher price would be cheerfully offered, and much larger quantities of lime used, if the villanous practice of dishonest measurement was abandoned by those who burn lime for sale.—This article is rapidly becoming one of primary importance to the agricultural interests of our country, and its sale as to *quality*, and *mersurement* ought to become a subject of regulation by law.

No. V.

OF A SERIES OF

Agricultural Essays,

Communicated by Geo. W. Jeffreys, Esq. of North-Carolina, for publication in the American Farmer.

Amelia county, Virginia, June 13th, 1818.

DEAR SIR,—I received yours dated the 20th ult. It is with sentiments of pleasure I find that my letter has been either interesting or useful to you or the members of your Society; for believe me, nothing can give me more pleasure than to find that I have been useful to my fellow citizens. You lament the reservedness with which experienced farmers communicate the result of their experience; this is a fact which is easily accounted for, the world is to often pestered with the intrusions of speculative theories and misstated facts of the vain, thoughtless, and inexperienced, and they are generally treated with the contempt that they deserve;—the grey headed experimenter is extremely reluctant to communicate his observations, expecting them to meet with the same fate, unless delivered with prudence and caution; hence he waits to know how they will be received before he communicates, for knowing with what pains and difficulty he has acquired the knowledge he possesses, he will not run the risk of having it exposed to contempt, than which, nothing could wound his feelings more.

In my former letter I described the manner in which my farm was laid off and the rotation of the crops, to continue on in detail: this subject, I think would give the best connected answer to several of your queries, hence I shall proceed on till I have gone through the whole operations for one year. I have already described the land as laid off into four fields and as many lots. I have to add that the dwelling house is nearly central with a yard, garden, farm-yard, stack-yard, a spring or water lot, the whole occupying about six acres; in my farm-yard are all the buildings necessary for the farming operations, viz: barn or granary with a wheat machine, to which is attached a mill for grinding plaster, stable, corn house, shelters for cattle, &c.; by these means all the offal of the farmer is brought to one place. In the spring of the year I begin to plough, but am not over-anxious about the earliness of it, provided I can beak up my land by the 20th of March, I consider it full early, this gives me time enough to list my ground and be ready to plant corn by the end of the first week in April. At and during the whole time of ploughing, all the hands not engaged in ploughing, are employed in clearing and manuring the land before the plough, every rock three inches in diameter is picked up, every grub and stump that can be removed, are all carted into the gullies; the manure is carted out and spread immediately before the plough, on the weakest and galled spots, and at this time if I find the land wants plaster, I give it a dressing of a bushel per acre sown broadcast. I break my ground six or seven inches deep (a practice I would not recommend on common high land for reasons to be explained hereafter) with a plough of my own construction, drawn by a pair of common horses, and plough two acres per day; but my six inches are just measurement such a one that twelve months after the ploughing, when the land has had time to settle well, will fairly measure this depth. I mention this circumstance because there is no practice in which a person deceives himself so much as in the depth of ploughing. I plough deeper than any man in this county, though there are several who say they plough from nine to ten inches deep with three and four horses. When I have finished breaking my land I then begin to level it; some say why list after your ground is broke up well; that checking off the ground will do as well, my reasons for listing are, that ground broke up by the big plough, will be cloddy, no matter how well it appeared pulverized at the time of breaking. I list in order that these clods may be well pulverized, and in order that they may have plenty of fine mould to cover the corn with at the time of planting, and also in order that the roots of the corn may have a good opportunity of getting out of the hills, after it begins to grow; which it will do much better by the ground being well pulverized in the place where it is planted.—About the 6th or 8th of April I begin to plant my corn, being previously prepared in the manner mentioned in the former letter; the ground is checked off with a trowel hoe, with two mould boards fixed to it; then four or five grains are dropped in a place and covered two inches deep, with the foot removing any clods that may remain on the surface. I vary the distance according to the quantity of the land,

and whether I intended cutting up the corn at the time of seeding wheat. If I intend cutting up the corn at the time of seeding wheat, I plant from 5 to 5½ feet each way two stalks in a hill; if I intend sowing my wheat before cutting up, I then plant 4½ and 7 two stalks. I find it very beneficial to have one wide way in the corn, at the time of seeding it in wheat; the ground can be better ploughed without injury done to the corn, there is also less chopping with hoes; I find it also beneficial at the time of giving the corn the last ploughing, for by this time gusts will have occurred, so as to blow down and entangle the corn; having at this time a wide way, the corn can be ploughed with less injury, but I generally plant both ways; as much as I intend seeding in wheat, the first ten days that I plant is with a wide way, and sow it with the corn standing; the balance I plant the same distance each way, and cut it up at the time of wheat seeding, by this means my corn is not injured by too early cutting up, and I am enabled to get early corn to fatten my hogs, which is much better than old corn; and it enables me to begin early to cart my stalks to the farm yard. In low grounds I ridge my land into 7 feet ridges, and at the time of planting, I run an instrument called a five teeth coulter drag, this cuts the earth fine on the top of the ridge, a furrow is then opened by the double mould board trowel hoe, the grain is dropped two or three grains every two feet or 18 inches, according to the quality of the ground, and then follows another of the coulter drag, which covers it up, leaving the ground light and well pulverized on the corn; this is the best and and most expeditious mode of drilling corn in low grounds I ever tried, and I have tried many ways. You may perhaps wonder I say nothing on the method of planting corn on weak land, at 4 feet distance, one stalk in a hill; this I believe is the best way of producing the greatest crop from weak land, but not from rich; and there are many circumstances in the mode of tending it, which prevent as much land being cultivated as some other methods, and as my principal crop for market is the wheat crop, I have not been anxious to make the land exert itself to the utmost, in the corn crop, the wheat crop following it will consequently be proportionably diminished.

After having finished planting my corn, I begin to plough the ground with the trowel hoe plough, following immediately after them with a straight toothed rake or drag, made triangularly with a pair of handles and thirteen teeth, three feet wide: this instrument breaks the clods to pieces, fills up the furrows left by the trowel hoe, levels the ground, fills up small gullies, and either tears or smothers young grass, and in fact is the best instrument I ever used in the corn fields; I have used it upwards of twenty years, and attribute the disposition my land has to wash so much less than my neighbours, principally to the use of this instrument; it is drawn by one horse and is an easier draughed than the trowel hoe; one drag is sufficient to follow 4 trowel hoe ploughs, and I take care that the whole of the ground daily ploughed is finished raking by night. I continue this mode of ploughing and cross ploughing, till my corn begins to tassel and shoot generally.—I replant my corn as soon as I have discovered that it is nearly all up, and continue replanting till the tenth of June, the last replanting is generally with early or rare-ripe corn. I do not set corn, never having had it to succeed with me; as soon as my corn is about 6 inches high, I begin to weed it; but do not thin it till it is at least a foot high, and at the time of weeding, I am careful that no hill shall be made to the corn, but restore to the hill about the same quantity of earth as is taken away, this keeps the ground level; this is a practice I have pursued ever since I began to cultivate corn, and is now getting into general use; at this time of weeding, if I am disposed to use plaster, I put about a table spoon even full on each hill of corn, sprinked round the stalks, and as much as is wed daily, is plastered before leaving the field, unless the wind is to high or it rains; I then do it the next morning, and at the last time of ploughing and weeding the corn, if I have not sown plaster at the time of breaking it up. I now sow it between the rows, at the rate of one bushel per acre. About the last time of working over the corn, clover seeds generally become ripe, if they are I order every male hand that works with the hoe, into the clover fields with a sythe, and there he continues till the sun is about 2 hours high, (while the dew is on it,) cutting, after which he leaves the scythe for the corn field; but if a rainy day comes and prevents ploughing the corn field, I then cut all day with every hand; after cutting, it is left on the land as it was cut, till it is sufficiently rotted, which takes from three to six weeks according to the season, whether dry, or wet; you may know when it is sufficiently rotted, by taking a head in the middle of a dry day, if you find upon slight handling it drops to pieces; but on the other hand if it requires some rubbing to separate the chieves, then it ought to lay longer, when sufficiently rotted, you will get your treading yard ready, and early in the morning on a fair day while the dew is on it, you will carefully rake it up and cart it to the treading yard, as much as will dry in the course of the day, and leave a person with it to keep it turning, and shaking it up light; when it has been well rotted, by the time it was dry, I have had the whole of the heads off; but if they do not come entirely off by the time the sun is two hours high, then put your horses on the treading yard for a quarter of an hour, then rake off the straw carefully, light up the balance, put on the horses again, and so go on till the whole straw is carefully taken off, which very seldom requires more than an hour; the seeds are to be put away in this state till sowing time, which is the last of February or first of March; by this method of saving the seeds, the best I ever tried, you lose your hay, which I do not consider as a loss, the clover straw I put away convenient to the stable to litter my horses, and it makes most excellent manure, of much more value than the hay, which would be eaten up by stock. In the month of February, when there is snow on the ground, is the best time for sowing, you will then take a large coarse white oak riddle, such as farmers generally use to take chaff out of grain, hang it up by a pair of leading lines on the joist of your barn, convenient to the place where the seed lays, and of a convenient height for the persons who uses it, run it through this riddle, which takes out a good deal of straw, separates the sheaves, and prepares it for sowing, one bushel of which put on an acre, is sufficient, though it may be sown thicker or thinner; it will do sown thinner over fields for improving land, but if intended for cutting, it may be somewhat thicker, this is the best mode of sowing clover seeds that I have tried.

Having now finished the subject of saving clover seeds, and sowing them. I shall next take up the subject of meadows. My objections to meadows, unless on lands daily covered by tide water; are, first: this climate is not favourable to the grazing of grass lands or meadows, for though I have found, that the fibrous rooted grasses grow on rich low land, here equal, if not superior to any part of the world under proper management, yet no sooner does the hoof of cattle tread the soil than a luxuriant growth is quickly converted into a little dwarf diminutive one, that is not able to support stock equal to the expense of making and keeping such land in meadows. Even Col. Taylor tried the experiment once on his tide water meadow, and was determined not to repeat it. It is a prevalent opinion among young farmers in the southern states that the first thing necessary to constitute the farmer, is to have a meadow, this they think constitutes the essential difference between the planter and farmer; but that is what I call beginning at the wrong end. What is it which creates the desire in the planter to become a farmer? Certainly the exhausted state of his high lands, for his swamp land or flats in bottoms, have been entirely neglected, while their hill sides cut down, worn out by wretched cultivation, gullied, galled, are entirely unprofitable; yet the first step he takes to improve these high lands, is to get up all his swamp land into meadows to raise stock, to impoverish both high and low land. To me it appears clear that all his bottoms, swamp lands, &c. ought to be got up and drained as quick as possible, that he may here introduce his crops of indian corn, wheat, &c. and leave his gullied, galled, &c. hill sides to rest, besides it is from the flats cultivated, that he is to draw his grand sources of manure, not laid down in grass; but some argue thus, my low lands lay so low and so subject to freshets, that they are good for nothing but meadows. I can answer, that if they are not fit for corn when drained, and properly cultivated, they are not fit for meadows, for if a fresh comes only one foot over the surface or even less, it will totally ruin a crop of grass by depositing its mud upon it, and so rendering it unfit for hay; while a fresh three feet in height, will not injure a corn crop in its advanced state, and if it comes in its early state it can be replanted; a fresh also over the tops of wheat when in ear, will not injure it sometimes, as I have experienced, if there is not a strong current to throw it down. Let us now attend to the produce of meadow land in corn, in order to make an estimate; we will say an acre of this land will produce 50 bushels of corn; but certainly ought to produce much more; these 50 bushels of corn fed away to stock, will certainly go as far as the quantity of hay, that quantity of land will produce; then

consider the crop of blades, which if well cured, will go twice as far in supporting stock as hay, to which is to be added the tops, shucks, cobs, &c. all which are strong food for cattle, and lastly, the corn stalk both as a food and manure is very considerable, that the whole joined together exclusive of the grain, is a supply of food and manure, much exceeding the hay crop; next comes the wheat crop, 20 bushels per acre or more; this is certainly equal to the hay crop, while the straw furnishes a bulk of manure, equal to the whole hay if rotted; the third year if you choose to use it as a year of rest, if sown down in clover, will yield twice the hay, that the fibrous rooted grasses will; hence, in three years, you have 50 bushels of corn and 20 of wheat, which is so much extra to pay you for your labour, while you have equal sources for stock and manure, but I believe greater. Are the above observations supported by practical facts? I answer yes. In the most improved agricultural district in Scotland, where agriculture is now conducted in a much more profitable manner than in England; the Scots have adapted, what they call the convertible husbandry; they have ploughed up all their permanent meadows, and in a rotation of crops from 5 to 7 years, they have their fields from two to three years in clover; it is this that gives it the title convertible, being converted alternately into arable and grass lands, and vice versâ, and though formerly their best farms were one half fine permanent meadows, yet they now have increased considerably their hay and grass, and raise, and fatten, more stock, than they used to do formerly, while they have more than doubled their grain crop; now shall we who are under a greater necessity of improving our lands, take up this error, when the British are laying it down. I am inclined to think we imitate them too much in other bad practices. I have already stated that the low marshy grounds that are daily overflowed with the tide, are the only lands fit for meadows, and perhaps cannot be made fit for any thing else, and may be much improved by draining, and sowing in artificial grasses; such is the meadow of Col. Taylor, of two hundred acres. I have a variety of grass on my land, which I sow mixed together on my grazing lot, and along branch sides and gulleys, viz: Clover, herds' grass or red top, fowl meadow grass, or white top ray, or orchard grass, timothy, tall meadow or Egyptian oat grass, burnit, &c. The fowl meadow grass, I like best. In my subsequent letters, I shall proceed in the detail I commenced with, but at present must conclude if it is not already too lengthy, and tiresome.

I am with respect yours, &c.
WM. MERIWETHER.

Geo. W. Jeffreys, Esq.

Burnt Clay.

Judging from the favourable manner in which our subscribers have received all that has been hitherto published concerning the Burning of Clay—we venture to submit the following account of minute and accurate experiments with clay ashes, in comparison with some other manures—we do not give it now for want of other equally interesting materials, but that we suppose the reader would like to have it in connexion with the papers on the same subject, to the end, that as far as can be, he may arrive at once to a thorough understand of the nature and the merits of the subject.

Editor Amer. Farmer.

Experiments on the efficacy of Burnt Clay, as a manure, by the Rev. Edmund Cartwright, D.D. of Hallanden House, near Tonbridge.

(From the Transactions of the Society, for the Encouragement of Arts, Manufactures, and Commerce.)

The Gold Medal was voted to the Rev. Edmund Cartwright, D.D. for this communication. For some years past, I have been in the practice of using soot and wood-ashes, as top-dressings, but never to much extent, from the difficulty of procuring them in any considerable quantity. In the spring of this year (1819) I was enabled to obtain soot sufficient to top-dress between five and six acres, part pasture and part arable, after the rate of fifty bushels per acre; and wood ashes sufficient for the same quantity of ground, after the rate of 100 bushels per acre, the prome cost of the soot was 9d. per bushel, but as I had to fetch it from some distance, I calculated the price of it when brought home, 1s. per bushel. The wood ashes were 4½d. per bushel; but as they lay nearer home, I reckon the carriage at 1½d. per acre. The expense, therefore, of top-dressing, with each of these articles, was the same, viz. 2*l.* 10*s.* per acre. The object of my experiment this year, was to compare burnt clay, soot, and wood ashes,—with burned clay, I top-dressed about 7 acres, after the rate of 10 cart loads per acre, each cart load being about 20 bushels. I must here observe that when I first began the burning of clay, I found it a very difficult and expensive business; but I have latterly contrived a method of performing the operation at a very cheap rate. It does not now cost me more than 9d. per cart load, fuel included, provided the weather is not unfavourable, so that the expense of this manure does not exceed 15*s.* per acre.

The soil on which these top-dressings were applied, was a cold, wet, tenacious clay. The crops on which they were tried, were Swedish turnips and the common turnips, Kholrabi, turnip-rooted cabbage, potatoes, Mangel wurtzel barley and beans.

On the 15th September, I measured off fifty square yards of Swedish turnips, under each top dressing, and fifty square yards, which had not been top-dressed, their respective weights were as follows. viz:—

			ton	cwt.	lb.
Burned clay,	580 lbs.	per acre	25	2	20
Soot,	546 do.	do.	23	12	2
Wood ashes,	398 do.	do.	16	12	50
No to-dressing,	235 do.	do.	10	3	12

Saying the value of the turnips at only 5s. per ton, (and they certainly are worth more) the burned clay exceeds the soot in value of crop per acre, 7s. 6d. by saving in prime cost 1*l.* 15*s.*; total, 2*l.* 2s. 6d.;—the superiority of burned clay over wood ashes, is nearly 8½d., to the value of which, if the saving in prime cost is added, the superiority will be 3*l.* 17s. 6d.—The superiority of burned clay over that which had no top-dressing, will, in money (deducting the expense of burning the clay) be 4*l.* 7s. 6d.

I must here observe that the great disparity between the turnips which were top-dressed, and those which were not, must not be attributed altogether, to the fertilizing properties of the substances employed, but in a considerable degree to the protection they afforded the young plants from the depredation of the fly—this will appear by the subsequent experiments on the Kholrabi and the common turnip. The Kholrabi plants destroyed by the fly, were replaced from a seed-bed. As the transplanting was performed in a showery time, none of them failed. The common turnip was sown during the same favourable weather, and escaped the fly altogether.

On the seventeenth of October, I measured off 50 square yards of potatoes, top-dressed, with burned clay, &c. &c. The results were as follows, viz:—

	bush.	pecks		bush.
Burned clay,	5	0	per acre	480
Soot,	4	3	do.	456
Wood ashes,	4	2	do.	432
No top-dressing,	4	0	do.	340

On the fourth of November, the results of similar experiments on Kholrabi, were as follows, viz:—

	lb.		ton	cwt.	lb.
Burned clay,	160	per acre	6	17	26
Soot,	138	do.	3	18	32
Wood ashes,	114	do.	4	17	30
No top-dressing,	93	do.	4	7	48

In my experiments on Reynold's turnip rooted cabbage, and on Mangel wurtzle, I was completely defeated; in the one case, the seed which I had had by me for many years, had out lived its power of vegetation; and in the other case (the Mangel wurtzel,) it had never acquired that power; the cold wet season of last summer not suffering it to ripen

Having only half an acre of barley, I divided it into four equal parts, not having conveniency in my small barn to keep the produce of each by itself—I kept an account of the number of sheaves that each part produced, when the whole was threshed out, I divided the grain that it yielded, which amounted to two quarters into four parts, proportionate to the number of sheaves reaped from each division.

	sheaves.		bush.	pks.		qrs.	bush.
Burned clay,	126		4	2	per acre	4	4
Soot,	121	more than	4	1	ra. more than	4	2
Wood ashes,	117	less than	4	1	ra. less than	4	2
No top-dressing,	84		3	0		3	0

It must be observed that the barley was sown in alternate rows with beans, so that, in fact, the space occupied by the barley, ought not to be reckoned more than a quarter of an acre, as one half the ground produced a crop of beans, of the result of the experiment on the beans, I am not able to speak, as they unluckily, when put into the barn, got intermixed with others.

November the 7th—the result of the experiment with common turnips, was as follows, viz.

	lb.		ton	cwt.	lb.
Burned clay,	296	per acre	6	7	54
Soot,	292	do	6	5	36
Wood ashes,	293	do	6	5	36
No top-dressing,	276	do	5	16	76

Why the result of this last experiment should vary so much from the preceding ones, I am at a loss to conjecture. Had I not paid the most minute personal attention, to every individual part of the experiments, from their commencement to their final measuring off and weighing the produce, I might suspect, indeed, that my directions had been deviated from or neglected: but as this could not possibly have been the case, the result of this last experiment must be set down as one of the many anomalies that are perpetually arising to baffle human ingenuity to account for.*

Of the experiments on grass lands, I had no convenient way of judging but by the eye, as far as the eye could decide,—the burned clay was, without question, the superior; and the soot, as in all the other experiments, except the last, was evidently more powerful than the wood ashes.

It is singular that in the neighbourhood where I reside, the farmers hold soot in very light estimation, but have a very high opinion of wood ashes, an opinion which these experiments may tend to rectify. Burned clay, it will clearly appear by these diversified experiments, has the most decided advantage over the other two substances in every respect; its immediate effect is greater; its original cost is less, and in durability, it admits not of a comparison. It is universally admitted, that wherever burned clay has been applied on a cold, wet, adhesive soil, it makes an immediate alteration in the texture of it, rendering it dry and friable, so as to admit of its being worked at almost all seasons. I gave a dressing of burned clay to a small piece of ground, between seven and eight years ago, the effect of which is visible to this day, and probably will be for some years to come.

Burned clay has been used as manure in Ireland with the greatest success for at least a century past; has been introduced in Scotland with equal success within the last ten years; and it is now beginning to get footing in England, where, possibly this paper, should it be sanctioned by the approbation of the Society of Arts, &c. may help to accelerate its adoption, as soon as it becomes universally established, we may date a new, and indeed, a brilliant era is in the history and progress of British husbandry. This is not said at random, but from a confident persuasion, in which the opinions of some of our best agriculturists will bear me out, that the judicious application of burned clay on soils to which it is adapted, will in a few years double their present value.

P. S. I herein enclose certificates respecting the different experiments detailed in this paper, excepting what relate to the barley. As no account was taken and written down of the number of sheaves, by any one but myself, and the reaper's recollection failing him, I have no other evidence to bring forward but my own memorandums.

* In a subsequent letter, Dr. Cartwright, thus expresses himself:—I have never been more puzzled than to account for the results of the experiments on the common turnip; I think, however, that I can now account for the whole. During the hop-picking season, this country swarms with gypseys and vagabonds of every description, who subsist chiefly on pillage. They last year, in a single night, carried off nearly 40 bushels of potatoes out of a field of mine. It is not unreasonable to suppose then, that my turnips suffered by their nightly depredations in the same way, as they would not draw them indiscriminately, but would select the forwardest—it is no wonder the theft was not suspected at the time, as the ground would still have a uniform appearance, though half the crop was carried away. I am fully satisfied in this conjecture and so is my bailiff—what confirms it is this, in two other fields, where I grew the same kind of turnip, the crops were uncommonly good, though the land upon which they grew, was by no means equal to that which I appropriated to my experiments.

FOR THE AMERICAN FARMER.

ON THE PROPER EXPOSURE OF ORCHARDS,

With some reflections on the disease called the SORE TONGUE, *and on the nature of epidemicks, in general.*

Locust Hill, near Frankfort,
27th March, 1820.

In one of your papers, you recommend a South Eastern exposure for an orchard.

I should like to hear from *practical* men, their reasons for this.

I have been accustomed to consider the frost the greatest enemy to our fruits, and that situations where it was found to have the least effects the best for an orchard.

High situations have the least frost—for as the air becomes more dense with cold, it sinks to the lower situations, the valleys, &c. But as frost does not by its *direct* effects kill all fruits, but rather by its consequences, by the action of heat upon the land before the frost is extracted—situations in which the frost is *usually extracted* before the sun acts on the buds, have been found favourable to fruit.

Our *dividing ridges* and our *river bottoms*, are both favourable to fruit—the former on the first principle, (less frost) and the latter on the principle, that the fogs and moist atmosphere from the river, and the shade of the river will all favour the extracting the frost, before it is injurious.

The position that it is in the extraction of frost, that the principal injury is done to vegetation, is exemplified in the well known fact, that to take winter vegetables frozen from the garden, and put them in cold water until the frost is out, (or let them remain buried until it is out of the earth) and they remain good; but put them in hot water, and they are unfit for use. The same of an egg.

I have seen the effects of shade in the morning, visible on the above principle in many vegetables.—The most remarkable, was in the garden of Captain R. Apperson, of this County, who in selecting a country seat, left the native trees in his yard and adjoining lot. He had rows of grape vines that shaded against his yard—and in each row, one season I was at his seat,—there was a full crop of grapes near the yard as far as the shade of the trees extended—the balance had not more than half a crop.—He told me it was very usually so.

The situations then, which protect from the morning sun, I conceive best for tender fruits; the north west, and south west, I should prefer to the south-east.

These opinions are the result of many years observations, made more particularly on the peach trees—for in the early settlement of this country, most people planted peach trees, and they generally bore if the fruit was not destroyed by the frost.

One of my neighbours, formerly had a good peach orchard, in which a small run which went through it, gave him both a northern and southern aspect in parts of his orchard:—He informs me that the hill side, facing the north, always produced more peaches and better flavoured.

The north western aspect, has the further advantage of not sending forth the buds as early as a southern aspect. I acknowledge my observations have neither been very extensive nor minute as to apple orchards; taking it for granted, that what was a good situation for one was for the other, and having satisfied myself as to the peach trees, I did not think of making inquiries in detail as to the apple tree, until I saw your paper; my inquiries since have produced nothing to change my impressions.

I am aware that in England, the south east side of hills is preferred. I suppose their moist and cloudy atmosphere might give a reason for it there, which did not extend here.

There may however, be many reasons for the south east aspect, that I am not aware of. Does the apple acquire a finer flavour? Does the tree produce in perfection more fruit, when it bears them on a north west exposure? Is there a perceptible difference in the inclination of the tree to acquire moss?

If winds from the north west are dreaded, that is a *local* apprehension, and each man will from his own observations, judge of the quarter from which most danger is apprehended from winds, there are certainly winds generally prevalent in particular countries, at particular seasons; but mountains, rills, and rivers, frequently give them particular directions in some neighbourhoods.

You find that in pursuance of the suggestions, when I first wrote to you, I occasionally drop you a line: I now repeat, (and intend it for the last time) that I intend you to hold absolute discretion over any thing I write, as respects the use you may make of it.

In one of your papers a professional man has expressed an opinion, that the diseases in horses, &c. that infested our country last year, *the sore tongue*, is not catching, and has given some cases to prove his position; I could give a *few* cases stronger than his of carriage horses fed constantly together, one having it and the other not; yet there have been so many cases where it was traced to *contact* with deceased horses, that no prudent man ought to risk it.

My opinion of the contagion of this disease is the same, that it is of many epidemicks in the human family.

That when they prevail; either from the atmosphere, or from some other general or unknown cause, there is created in *many* constitutions a *predisposition to the disease*; when that predisposition exists, exposure often calls it into action; when, but for the exposure it would have subsided; but if there be no predisposition, exposure to a diseased subject is harmless.

Respectfully, yours, &c.

M. D. HARDIN.

FOR THE AMERICAN FARMER.

Timothy and Orchard Grass.

MR. SKINNER—

DEAR SIR,—If you shall think the following facts relating to timothy--*Phleum Pratense* likely to entertain your subscribers, I must beg you to insert them in one of the numbers of your useful publication.—For the introduction of timothy grass into the state of Maryland, the farmers are indebted to Timothy Hanson, the father of Jonathan Hanson, who built the first Grist Mills on Jones' Falls, now forming a part of the city of Baltimore. This gentleman resided in Baltimore about seventy years ago; and was the first person to bring the grass into cultivation. I believe Mr. Hanson was a native of one of the New England states, or whether he discovered the value of this grass, growing in the neighborhood of his mill, or brought the seed on with him, I cannot say; but he had certainly the *honour* of introducing it to the public, and when it first came into fashion, it was called

TIMOTHY HANSON'S GRASS, and sold in "*Baltimore town*" by that name. I should like to know how far *back* it was called Herds' Grass, to the eastward of Maryland. What has become of the *Hanson family?* Timothy, had several sons. Jonathan, *was one of your flour inspectors* about the year 1769 or 1770; and was as well known, *as old Mr. Moore*, the father of one of your present inspectors. That celebrated farmer and statesman Timothy Pickering, is perfectly correct in his conjecture about the origin of the name of *Timothy* Grass; and there are many old Baltimorians, yet remaining, who will delight you with an account of the fine crops of *Timothy*, cut and cured on the MEADOW, which was attached to the old mill, now in *ruins.—Charles Constable*; lumber merchant, is now the oldest *native* of Baltimore. He can probably tell you all about the Hanson family. While on the subject of grass; I must beg leave to trespass upon your valuable time a few minutes longer, by calling your attention from timothy to the luxuriant Dactylis Glomerata, or orchard grass, or the rough cock foot grass, which is far superior in every respect to any variety of grass cultivated in this country, either *native* or *imported*. I recommend it to your consideration, as truly invaluable as a grass, entitled to rank as *number one*, for its earliness, great luxuriance, and wonderful powers of reproduction. It is far superior to the guinea grass, which it resembles something in the leaf, but is far superior in point of softness. (I have had the Guinea grass from Jamaica, but it was too tender to stand one winter, although protected by a brick wall, and covered.) That distinguished agriculturist, Mr. Coke, of Holkham, in Norfolk, England, is now cultivating orchard grass extensively, in preference to the most admired grasses of that country, under the name of rough cocks foot. Seeing this grass highly recommended for its good qualities, I imported a few pounds of the seed, for trial, and found it to be nothing more than our *neglected* orchard grass. The great drought of last summer has firmly established its reputation, and from a careful observation for many years, in growing it on rich, poor, low and wet grounds, I am fully convinced of its fine qualities, for pasture, green food, or for hay, when cut early or mixed with clover. Horses, cattle, sheep, and hogs give it a decided preference. It is far more productive than timothy, remains without running out, and the soil never appears exhausted by its cultivation, in the smallest degree. "Timothy Hanson's grass," is otherwise, and is considered a great exhauster, when permitted to ripen its seed.

Pray who had the honour of introducing orchard grass into notice? A few years ago it was only sown in the shade, where it will succeed well, but far better without protection from the sun. It is well worth the attention of every well disposed farmer, to give this grass a fair trial, let him procure good seed, and he will find it a most valuable acquisition. It is necessary that a change of grasses should take place, grounds that have been years in other grasses will produce great crops of this. If intended for pasturage, or for mowing for hay, clover may be advantageously mixed with it. As the clover disappears, the orchard grass will increase, and take possession of the ground. It will be necessary to sow it thick,* as the seed is remarkably small, and is sold without being seperated from the chaff. A bushel of the seed, *as it is called* by the seed dealers, will contain about a gallon of *seed* that will come up. Nature has been remarkably profuse to us, and we have many grasses, superior to my *old friend Timothy Hanson's*. I shall trouble you again about some other grasses deserving of cultivation. Your obedient servant.

R.

Felicity Farm, Maryland, Mar. 18, 1820.

*Now we protest against this looseness of information.—What does our correspondent mean by *thick* sowing? a gallon or a bushel? why not always *specify?* It is ten to one if we do not have a dozen letters inquiring how much orchard grass seed to the acre.
Edit. Am. Far.

TO THE EDITOR OF THE AMERICAN FARMER.

PRICE OF SEEDS, &c. &c.

MR. SKINNER,—

SIR—If you or your correspondents, would give the information requested below, I am persuaded it would benefit the agriculture of some parts of our country, as much as any thing which you can publish in the American Farmer.

At what place and at what price, can be obtained the seed of Saintfoin (hedysarum onobrychis?)—meadow Fox tail (the alopecurus pratensis?)—Tale cat grass (avena elatior?)—Ray or rye grass?—Orchard grass?—Timothy (phleum pratense?) And the long rooted clover (tripolium macrorhizum?) Only small quantities are wanting at present, to experiment with in the southern parts of Virginia. What soils are suited to each. What quantity of seed are sown to the acre? How is the ground prepared, and at what season sown? In short, a detailed account of the culture and uses of each particular kind, and a reference to such works as contained the best information on the subject.

At present, clover, *herds' grass* and Lucerne, are the only grasses cultivated in the southern part of Virginia, below the mountains. Lucerne is cultivated only in a few garden spots. Clover is becoming quite common on upland; and what *we* call *herds' grass* in meadows. This grass is very different from the phleum pratense. The head is branching and when ripe, is red. In some of the northern states it is called red top. The *range* in this section of the country being nearly destroyed, it becomes every day an object of increased importance, to provide food for stock by artificial means. Having but little practical knowledge on the subject, we are exposed to the danger of many fruitless efforts. Most agricultural works have for their objects, the *improvement of existing cultivation*—consequently do not descend to all the details, which are so necessary to those who have *every thing to learn*. Through the medium of your valuable paper our more experienced brethren can convey to us information so much needed. It is thus, by diffusing experimental knowledge, that the intelligent farmer can essentially promote the interest of our common country. And your paper by becoming the medium of that diffusion, will continue to promote agricultural improvement in an eminent degree.

A Virginia Planter.

FOR THE AMERICAN FARMER.

CAMDEN, S. C. 20th April, 1820.

SIR,—A letter addressed to the Editor of a Baltimore paper, relative to a new railway or Columbian level, has excited some attention, but, not as much as is to be wished for in those parts of this country, where, from the low and level character of the land, they may be made most available. The question of internal improvement, has been in agitation in this state for 2 or 3 years; almost all this time has been lost in nearly fruitless endeavours to open rivers, which in dry seasons are innavigable, and in wet ones so deep as not to feel the necessity of removing the existing impediments. A disposition is arising, that will give greater eclat to roads than has hitherto been yielded; and, if the one half of Mr. ——'s, (I think the name attached to the advertisement in the Intelligencer of the 3rd February, was Charles Williams,) representation be perfectly correct, and the recital of the work performed by his machine in the capitol yard be accurate, he should direct his attention to this state. A road through a flat country of nearly 100 miles, (so flat that the fall does not exceed a foot per mile) is just now surveyed, and it is said is proposed to be made with timber, under ground; and, I am convinced as to quantity and labour, in the proportion of 10 to 1 of that he would require, and as to practical advantage of 1 to 100.

I am sir, yours &c.

A CAMDONEAN.

FOR THE AMERICAN FARMER.

TO DESTROY OR DRIVE AWAY BED BUGS.

MR. SKINNER,—A correspondent of yours sometime ago under the signature of a Traveller, with a little spleen and a good deal of humour, offered your readers some recipes against the annoyance of the common bed bug. But as he gave too large a choice of remedies, and might rather distract the anxious housewives to whose care the administration of these lotions, or in plainer English these washes, are generally committed; permit me to take one of his prescriptions, which if properly used will be suffient, only simplifying it a little. Viz:—

Half an ounce of corrosive sublimate, put in a common bottle of whiskey, and after shaking it and standing long enough to be dissolved, apply it with a feather to all the joints and spaces of the bed; and if the house is old and the bugs have got into partitions, they must be pursued thither. This is so effectual, that unless the house is overrun, there will hardly be any found after the first application, in the same season.

Following the humane caution of your correspondent, it must be noted that it is a violent poison: and beside locking up the bottle, it should have a large label with the word POISON in large letters; for if it fall within the smell of a drunkard, he will perhaps swallow it with the death that is in it.

Baltimore, April 19, 1820.

To make Cream yield Butter quickly in cold weather.

[FROM A CORRESPONDENT.]

Some one complains in your paper, that he has lost 50 weight of butter, by not knowing how to manage the cream in *cold weather.*—Tell him, or her, as the case may be, that the cream will readily yield up the butter it contains in the coldest weather, if as much boiling water be poured in, as will bring it to the temparature of new milk, that is, milk just from the cow; cream so managed, will require very little churning, and no other disadvantage accrues, except that the butter will be white for a day or two.

POETRY.

Written by the late Henry Kirke White, when he was only 13 years of age.

TO AN EARLY PRIMROSE.

"Mild offspring of a dark and sullen sire,
Whose modest form, so delicately fine,
Was nursed in whirling storms,
And cradled in the winds.

"Thee when young Spring first question'd Winter's sway,
And dar'd the sturdy blust'rer to the fight,
Thee on this bank he threw,
To mark his victory.

"In this low vale, the promise of the year,
Serene, thou open'st to the nipping gale,
Unnotic'd, and alone,
Thy tender elegance.

"So virtue blooms, brought forth amid the storms
Of chill adversity, in some low walk
Of life, she rears her head,
Obscure, and unobserv'd.

"While ev'ry bleaching breeze that on her blows,
Chastens her spotless purity of breast,
And hardens her to bear
Serene, the ills of life."

FOR THE AMERICAN FARMER.

MR. EDITOR,—I set down in haste to correct a note of yours about the Spanish Pullets, (you say *they laid more than an egg a day,*) Mr. Jenner did not say 367 *eggs each*, but that he got 367 eggs, and lost from 20 to 30, say 30.

367 Eggs	36
30 lost	46
2)397	319 days laying
	198
198 each hen	

Each hen idle 121 days

He explains himself again, by saying he got more than 53 lb. 7 Eggs to the lb. taking it for granted that he lost 30, which makes 397, he got 56 lbs.

He says they began to lay about the middle of November, and continued so to do till about 10 days past, letter dated 14th October, take off 15 days for November, all October 31—is —46 days.

Yours respectfully.

April 21st, 1820.

INFORMATION WANTED.

Oxford, N. C. April 11, 1820.

JOHN S. SKINNER, ERQ.

Dear Sir.—The cultivation of the *Palma Christi* is so very important, occasioned by the very high price of castor oil, that it is very desirable to aid and incite to the more general raising of that very valuable plant. If you are in possession of any information relative to the time of planting, method of cultivation, and process of gathering and securing the seed of this plant, a very early insertion of it in the American Farmer will extend the usefulness of your invaluable paper, and oblige a subscriber, for the numerous and valuable advantages he has hitherto received from it.

A WEAVER WANTED—IN VIRGINIA.

To a married man of good moral character and steady habits, great encouragement would be given. It is not intended to establish a regular manufactory—but two or three looms would find constant employment in weaving for the neighbourhood. The custom there is—to furnish warp to the weaver, who weaves at fixed prices. A good house, garden, &c. will be furnished on reasonable terms, and the weaver either taken on wages for the first year or not, as he may choose. ☞ Inquire of the Editor of the American Farmer.

Amount of Inspections

In the city of Baltimare, for the quarter ending the 31st March, 1820.

Wheat Flour	148,205	bbls.
Ditto	6,407 half	do.
Rye Flour	1,379	bbls.
Ditto	1 half	do.
Corn Meal	1,263	bbls.
Ditto	140	hhds.
Pork	1,672	bbls.
Ditto	78	½ bbls
Beef	1,540	bbls.
Ditto	54	½ do.
Herrings	375	bbls.
Mackerel	32	do.
Ditto	28 half bbls.	bbls.
Salmon	206	do.
Cod	37	do.
Butter	1,756	kegs
Lard	2,527	do.
Domestic Liquors,	12,107	*small* casks
Ditto	408	*large* do.
Foreign Liquors	239	do.
Oil and Molasses,	452	*large* do.
Ditto	290	*small* do.
Ullages	385	do.

THE FARMER.

BALTIMORE, FRIDAY, APRIL, 28, 1820.

☞ The communication, apparently from the Eastern Shore of Maryland, describing a labour saving implement, and signed Rusticus, was received a few days since; we beg the author to accept our thanks, and to be assured that if we had received it ten days sooner, we should have presented our readers with a drawing of the machine.

The delineation is so perspicuous, that the Engraver, says he will have no trouble in repreneing it; but it was impossible, after we received it, to have it ready soon enough to circulate in time for our subscribers to plant corn with it this season—of course it must now remain on file until other things more in season, are disposed of; we are only surprised, that such an implement so efficient, and saving so much labour, should not have been patented, and more generally known.

☞ A subscriber from North Carolina, inquires about *shovel ploughs*, and wants a minute description. A gentleman of Leesburg, has promised us a *model* of a *double* shovel plough, which we shall have engraved, and have some reasons to think it will supercede in a great measure the cultivator, and our other ploughs for the cultivation of corn and tobacco.

☞ A drawing of a tobacco prize, mentioned in a former number, is in the hands of the Engraver, and will be accompanied with some further remarks on the cultivating and curing of that plant.

☞ That accomplished officer, COM. C. MORRIS, just returned from South America, has obligingly placed in the hands of the Editor, a variety of seed, which he received; chiefly, from the celebrated Botanist Mons. Bonpland. A more particular account of them, will be given in our next. They are for the most part flower seed; but amongst them we observe also, a species of tobacco seed, which may prove valuable, but it is now we fear too late to make trial of it this season.

Com. Steuart and Com. Morris, have both just returned to their country. These are officers of first rate talents, and scientific acquirements; whilst the government have such men at their command, the vacancy in the Board of Navy Commissioners, occasioned by the fall of the gallant Decatur, may be filled up to advantage, and the high character and great advantages of that institution may be preserved to the nation. The skill and activity of the present incumbents are not to be excelled: but it is an office, which peculiarly requires a division of labour, and will find steady employment for three chosen officers.

☞ It is presumed that those who write, as well as those who talk, generally *wish to be understood;* we wish on this account we could make every writer for the Farmer, understand how important it is to make his manuscript *plain;* this ought to be done *in all cases*, but more especially when *botanical* or other *terms*, or words of a *foreign language* are used; whenever a writer inserts such terms or words, he would save much labour to the Printer, and mortification to the Editor and himself, if he would take the pains to stop and deliberately make the word with his pen in *printing* letters, as the school children call it; thus PHLEUM PRATENSE, then there can be no mistake. It can't be expected that Printers understand these generic terms, and foreign languages—of the latter the Editor understands imperfectly only two or three,—with the aid of his Botanical Dictionary, a most valuable work, *he* could get along:, but he rarely can get a moment to correct a proof sheet, and must again make to correspondents two requests:—First, ☞ To make their communications in a *fair and plain hand*:—Secondly, ☞ That unless restrained by some special reason, (and it is difficult to imagine any good one as to agricultural writings) they will give to what they write their *proper names.*

OUR AFFAIRS WITH SPAIN.

The long pending negotiations between our government and Spain, respecting the Floridas and other matters, have been for the present entirely broken off. It is probable nothing more will be done, until the government of Spain shall have settled down, and got into regular operation under the new order of things—when it is probable, amicable relations will be firmly re-established between Spain and America. If justice and sound policy prevail in the Spanish Councils, this desirable result will certainly follow.

Present Prices of Country Produce in this Market.

Actual sales of WHEAT—Red, per bushel, $1 to $1 25—WHITE, do. in proportion—CORN, white 45 to 47 cts.—RYE, 56 to 58 cts.—FLOUR, from the wagons, $4 50 to $4 62—WHISKEY, from do. 30 to 30½ cts.—HAY, per ton, $17—POTATOES, 50 to 62 cts—MUTTON, per lb. 6 to 8 cts—CATTLE, per cwt. 6 to $7—Retail, in the market, at $4 to 10—EGGS, per doz. 12½ cts—TOBACCO, from wagon, $10 to 15$—Patuxent, do. $9, 10 & $11. *North Carolina Staples*, TAR, $1 50—TURPENTINE, soft, $2 25—SPIRITS do. 33 to 35 cts—PITCH, $2 50—ROSIN, $1 75 to $2—COTTON, Upland 17 cts—SHAD, No. 1, trimed, $7—Do. do. untrimed, $6—LARD, in small kegs, 11 cts—BACON, hog round, per lb. 9 to 10 cts—HAMS, 10 to 12½ cents.

One Hundred Dollars per annum,

A free house and provisions, will be given for a man who will bring to the Editor of the Farmer, satisfactory proof of his industry and capacity as a Gardener.—His employer will *plan* the work, it will be his duty to execute it well and skilfully when pointed out to him.